

Date: Fri, 2 Sep 94 04:30:27 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #261
To: Ham-Homebrew

Ham-Homebrew Digest Fri, 2 Sep 94 Volume 94 : Issue 261

Today's Topics:

 Dipoles & 50 ohm coax
 Ham-Homebrew Digest V94 #260
 Pocket SW Receiver Design
 Schematic CAD program
SSTV--Published Mac/PC-based projects? FSTV frame-->SSTV projects?
XYL Reactions (snicker- Kodak moment) (was Re: IC-751A HF Transc

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Wed, 31 Aug 94 17:38:00 -0500
From: ucsnews!newshub.sdsu.edu!nic-nac.CSU.net!charnel.ecst.csuchico.edu!
yeshua.marcam.com!zip.eecs.umich.edu!newsxfer.itd.umich.edu!gatech!
howland.reston.ans.net!agate!iat.holonet@ihnp4.ucsd.edu
Subject: Dipoles & 50 ohm coax
To: ham-homebrew@ucsd.edu

In <CvBD3H.2MM@usenet.ucs.indiana.edu>, Gene Battin, N9XAM wrote:

>In article <93.1891.7584.0NFB2E97@woodybbs.com>, Art Harris
>(art.harris@woodybbs.com) wrote:

>> The question then becomes: What feedline will give you the lowest loss
>> while allowing the transmitter to put out full power. The lowest loss
>> line may not necessarily be the one that gives the lowest SWR. Also, if
>> the line is not perfectly matched to the antenna, the load that the
>> transmitter sees will vary with the length of the line, ALTHOUGH THE SWR

>> WILL NOT VARY.

>> Since virtually all rf wattmeters and directional couplers are 50 ohm devices, I would probably go with a low loss 50 ohm line. I would trim the dipole for minimum SWR. If the rig didn't like the impedance it was seeing, as evidenced by reduced output, I would adjust the line length until the rig was putting out full power.

>Just wanted to say, thanks, Art, for the clear exposition of this.
>This explains what I've seen when trying to set up a 40 M dipole, and
>makes the fix clear! (I couldn't understand why I saw less output as
>trimming brought the SWR down.) Now I know what was happening and,
>more importantly, what to do about it.

Ok Gene, let us know how you make out. Remember that your forward power may decrease as your SWR is lowered, even if the rig is putting out full power. True power is forward power minus reflected power; that's what you want to maximize. As you lower SWR, both the forward and reflected power will drop.

73

Art N2AH

Date: 1 Sep 94 19:25:45 GMT
From: news-mail-gateway@ucsd.edu
Subject: Ham-Homebrew Digest V94 #260
To: ham-homebrew@ucsd.edu

>Date: Tue, 30 Aug 1994 21:21:44 -0700
>From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!charnel.ecst.csuchico.edu!yeshua
>.marcam.com!MathWorks.Com!udel!news.sprintlink.net!nwnexus!scipio.cyberstore
>.ca!yvr.cyberstore.ca!fng@network.ucsd.edu
>Subject: 2M Amp ('73
>To: ham-homebrew@ucsd.edu

>I'm building the 2m amp project in '73 magazine (Nov '93). The article
>seems pretty straight forward. I have one question though. For the
>trimmers, they use ARCO 423's and an ARCO 404. Nowhere in the article
>does it say what the adjustable capacitance range for the two trimmers
>are. Does anyone know so I can find an equivalent? Thanks!

>Felix

>--

>Felix Ng - Vancouver, British Columbia, Canada
>fng@cyberstore.ca / Fax: 604-322-5936 / VE7YDG / D.G.I.F. #8767
I looked up both components and did some cross reference checking.

ARCO Electronics |
400 Moreland Rd. |
Commack, NY., 11725-5707 |

ARCO 423 mico compression trimmer, 7-100 pfd: .750 x .500 x .375 in, screw slot adjust, 175 vdc

ARCO 404 mico compression trimmer 8-60 pfd : .562 x .375 x .125 in, screw slot adjust, 175 vdc.

Not familiar with your referenced article in 73 but the capacitor bodies are probably part of the electrical transmission line matching circuits physically

I am trying to say the dimensions of substitutes may be critical! There are no other vendor PN equivalent to the above in the NSN system.

73, K5VMU |...Opinions expressed are mine alone
dale_croft@comsys.rockwell.com |Rockwell does not acknowledge nor endorse them!

Date: 31 Aug 1994 19:51:41 -0500
From: ihnp4.ucsd.edu!munnari.oz.au!bunyip.cc.uq.oz.au!harbinger.cc.monash.edu.au!
yeshua.marcam.com!usc!cs.utexas.edu!not-for-mail@network.ucsd.edu
Subject: Pocket SW Receiver Design
To: ham-homebrew@ucsd.edu

I started a recent thread on regenerative receivers which eventually turned into an interesting discussion superregenerative sets. I also got a number of very interesting direct responses, however, all the info has lead to more questions. So I would like to pose a more general question to the wisdom of the net. Namely, what type of receiver would you recommend for a small portable shortwave. Here are the general design specs I'm working under:

(Relatively) small parts count. I want to keep it small with simple "ugly" construction. (I don't like etching boards). Low battery drain. Simple, reliable design (easy to get working without sophisticated test equipment as I still build these guys without a scope). Enough sensitivity to receive moderate to strong international broadcasters with only a short makeshift antenna. Enough selectivity that I have a reasonable chance of single-signal reception in the international shortwave bands. Frequency coverage need only be one band (probably 49 meters), but others would be a plus.

Here're some design ideas to get the ball rolling:

Superhet: It's been argued that no alternative (regen, super, dc) can give similar performance. But... It would have to be dual conversion to eliminate images. Perhaps a couple of NE602s? Would simple LC filtering of a couple of IF stages give sufficient ultimate selectivity? What about using ceramic filters, first stage 10.7 Mhz, second 455Khz? Doesn't sound very simple. I've built nice sets, but those designs are not suitable for a portable.

Regenerative: Smaller parts count, but there seems to be broad disagreement on whether selectivity would be adequate at 5-10 Mhz. Additional advantage of allowing multiple bands by simply switching a single tuned circuit.

SuperRegen: Don't know too much about this. Any pointers to possible design articles? What is the advantage over regenerative?

Direct Conversion: Simple design, audio filtering easy. But... A free-running VFO will not be stable enough for good-quality AM detection without frequent retuning (I know, I've built some very good ones, but any tiny drift really beats with the carrier and ruins the audio). What about phase-locking directly to the incoming signal (is that synchrodyne?). I've never designed with phase-locked loops, so pointers here would be very helpful. Is it feasible below 10 Mhz that there is some off-the-shelf chip which would provide suitable VCO and phase comparator? Is it easy to get sufficient VCO range and small enough locking range that neighboring signals could actually be independently captured, or would strong signals hog the PLL?

Those are the ideas. I'm particularly interested in the Regen and synchrodyne ideas. I would especially appreciate ideas on the latter. Has there been a construction article for a synchrodyne receiver? If the general wisdom is that only a superhet will suffice, that's the way I'll go. I just don't have time to try everything.

This is a bit of a long post, but I hope it will generate some interesting discussion of possible designs.

--John

--

*** John Zelle	e-mail: zelle@cs.utexas.edu	***
*** Taylor Hall 2.124	motto : I'd rather write programs which	***
*** University of Texas	write programs than waste my	***
*** Austin, TX 78712-1188	time writing programs	***

Date: 31 Aug 1994 17:40:51 -0400
From: america.com!not-for-mail@uunet.uu.net
Subject: Schematic CAD program
To: ham-homebrew@ucsd.edu

I am looking for a shareware schematic drawing pgm. It doesn't need an autorouter and must be able to work on a 8086 machine.

[illegible]

Date: Wed, 31 Aug 1994 18:43:54 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!newsxfer.itd.umich.edu!zip.eecs.umich.edu!
yeshua.marcam.com!news.kei.com!world!johnl@network.ucsd.edu
Subject: SSTV--Published Mac/PC-based projects? FSTV frame-->SSTV projects?
To: ham-homebrew@ucsd.edu

In article <33r9v4\$9c9@dewey.cc.utexas.edu>,
Robert Camama <rcamama@dewey.cc.utexas.edu> wrote:

```
>  
>Hello,  
>As the header suggests, I'm looking around for a few published SSTV projects.  
>The ones I seek fall into two groups:  
>  
>1) Anyone know of SSTV hardware/software projects that are based on  
>either Mac or PC systems. Info on Mac-based projects preferred, since I can  
>get to them more often than PCs, but will gladly accepts suggestions on either  
>systems.
```

VIDEO CONFERENCING OVER HAM RADIO

For those not familiar with SSTV, it allows you to enhance your communications by including full color images. Instead of JUST TALKING about a new boat, pet dog, grandchild, or whatever, you can exchange full color pictures over ham radio using a voice transceiver. A few years it cost kilobucks to buy special purpose equipment. Today you can get started with a PC, a few \$ of parts from Radio Shack and free software. It's fun. It's interesting. It isn't expensive anymore.

Now back to the question

I try to keep up on everything happening in SSTV and never heard of anything for the Mac. There have been a few homebrew SSTV projects for the IBM PC the last couple years:

73, August 92 - ViewPort VGA
QST, January 93 - Pasokon TV
QST, January 94 - Vester

For more background on SSTV, products available, a bibliography, etc.
grab a copy of /pub/ham-radio/sstv_wefax_info from ftp.cs.buffalo.edu.
I'll gladly e-mail a copy to anyone to can't snatch a copy by ftp.

For a reprint of the January 93 QST article, send an SASE to:

John Langner
115 Stedman St. #U
Chelmsford, MA 01823-1824

>
>2) Any published projects involving hardware exclusively meant for
>conversion of fast-scan video frames into SSTV-format images?

The articles mentioned above only deal with sending and receiving images
with voice transceivers. They do not address the problem of getting
video (from a TV camera) into the computer. You will need a framegrabber
to do this.

>
>
>Thanx in advance,

You're welcome.

>R. Camama
>

73,
John WB2OSZ

Date: Thu, 01 Sep 94 01:18:46 EDT
From: ihnp4.ucsd.edu!agate!library.ucla.edu!europa.eng.gtefsd.com!MathWorks.Com!
udel!gatech!concert!salzo!dburton@network.ucsd.edu
Subject: XYL Reactions (snicker- Kodak moment) (was Re: IC-751A HF Transc
To: ham-homebrew@ucsd.edu

wwg@coutts.UUCP (Warren Gay) writes:

> Actually, come to think of it... why not put the TUBES in the top
> rack? Get them all nice and spiffy clean... they're least likely

> to suffer from it, assuming they can't move much!

. . .

> Then the side tray where the silverware normally goes, I could leave
> my favourite pliers, screwdrivers, and open-end and box-end wrenches.

Well, I wash my baking potatoes in the dishwasher, so why not? :-)
(But take out the tools and blow-dry them before they rust.)

-Dave Burton <dburton@salzo.cary.nc.us>

For my PGP public key, finger dburton@cybernetics.net or dburton@ios.com

Date: Wed, 31 Aug 1994 19:24:59 GMT
From: netcomsv!netcom.com!nuke@decwrl.dec.com
To: ham-homebrew@ucsd.edu

References <CvBCA0.FBy@csn.org>, <33vtan\$b0v@eccdb1.pms.ford.com>,
<1994Aug30.221728.22347@vfl.paramax.com>, i
Subject : ad-Hoc transmitters (was: Re: regenerative sets and selectivity)

In article <1994Aug30.221728.22347@vfl.paramax.com>,
Pete Rossi <rossi@VFL.Paramax.COM> wrote:

>Superhets radiate too!! I discovered recently while trying to listen to
>a repeater on 444.0 MHz I kept hearing various carriers and noises come
>and go as I drove around. They sounded very "local" since often they were
>full quieting but they would have lots of very deep fades then disappear a
>half mile down the road... then come back... then disappear.
>
>Turns out what I was hearing was the local oscillators in other car radios
>tuned to a popular local FM station on 100.3 MHz

I found out last weekend that the mysterious audio noise marker
generator that I had been hearing on 2 m was actually my CD-boom box!
Every 90 kHz a nice bit of noise. Anyone know what it might be?
servo-positioner for the laser diode, maybe?

Bill "TVI, nuthin!"

--
Bill Newcomb "Name them."
nuke@netcom.com -Dilbert

End of Ham-Homebrew Digest V94 #261
